

10 Rec

12 2 JUL 2004

10/502306

## CLAIMS

1. A drug composition consisting of pentarphin with structure Val-Lys-Gly-Phe-Tyr, of its  
5 cyclic form, cyclo(Val-Lys-Gly-Phe-Tyr), or of an amino acid sequence containing these  
amino acid sequences as a part of molecule, characterized by:
- (i) one or more of such peptides are administered into a human or animal body,
  - (ii) said drug is administered in such a way that concentration of said peptides appear in  
10 the blood circulation and activity and/or concentration of macrophages and/or of T-  
lymphocytes are increased, and
  - (iii) the resistance of human or animal organism against microorganisms is increased  
while the immunogeneity against the peptides are maintained negligible.
2. A drug composition according to Claim 1, characterized by the total pentarphin  
15 concentration in animal or human body does not exceed 10 mg /kg of body weight.
3. A drug composition according to Claims 1 and 2, characterized by:
- (i) the drug composition additionally contains one or more of conventional antibiotics,
  - (ii) the antibiotics are administered in such a way that their concentration in blood  
20 circulation is maintained optimal or suboptimal as to their normal usage, and
  - (iii) the combined use of the peptides and antibiotics results in an increased antimicrobial  
effect of the antibiotics or the undesirable side effects of the antibiotics are  
diminished.
- 25 4. Structure of unnatural synthetic cyclopentarphin, cyclo(Val-Lys-Gly-Phe-Tyr)  
characterized by its increased stability in physiological conditions compared with that of  
pentarphin.
5. Peptides of Claim 1, characterized by their increased stability in physiological conditions  
30 or their higher bioavailability compared with the conventional linear peptides, such  
favourable properties being acquired by chemical coupling of the peptides to other small-  
molecular or macromolecular carriers.
6. A cell cultivation medium involving bioactive peptides of Claim 1 or 5 for animal or  
35 human cells, cell lines, or hybridomas characterized by:
- (i) concentrations of bioactive peptides are not more than 10mg/l,
  - (ii) the cell cultures contain macrophages in addition to said animal or human  
cells,
  - (iii) the cultivation medium may contain antibiotics according to Claim 3.
- 40
- 45
- 50